IN THE CLAIMS:

Please amend the claims as follows:

1.   **(Currently Amended)** In a network, a method for segmenting a streaming multimedia clip and distributing said streaming multimedia clip from an origin server to a plurality of streaming caches which comprise a distribution set in said network, the method comprising the steps of:

   determining a size (L) of the multimedia clip;

   segmenting the streaming multimedia clip into a first plurality of data segments of ~~first predetermined segment size and a second plurality of data segments of~~ exponentially increasing size, wherein a segment size of a k-th data segment in the first plurality of data segments is computed using the size of the multimedia clip and a total number of data segments in the first plurality of data segments;

   dividing a remaining undivided portion of said multimedia clip into a second plurality of data segments having a predetermined segment size; and

   distributing the first and second pluralities of data segments from the origin server to said plurality of streaming caches, wherein an i-th data segment is distributed in an i-th distribution round to each of said plurality of streaming caches.

2.   **(Currently Amended)** The method according to claim 1, wherein the segment size of [[a]] the k-th data segment in the ~~second~~ first plurality of data segments is computed as $L/2^{(K-k+1)}$,

   where K is [[a]] the total number of data segments in the ~~second~~ first plurality of data segments, and

where k is an index defining each of the K data segments, (k= 1,2,....,K), in the ~~second~~ <u>first</u> plurality of data segments.

3.   **(Previously Presented)** The method according to claim 1, wherein the size L of the multimedia clip is measured in units of time.

4.   **(Currently Amended)** The method according to claim 1, wherein the segmenting <u>and dividing</u> ~~step~~ <u>steps</u> further ~~comprises~~ <u>comprise</u> the steps of:

determining in an m-th ~~distribution~~ <u>segmenting</u> round if a data segment of ~~said multimedia clip~~ <u>the first plurality of data segments</u> is equal to or greater than a predetermined threshold value, said m-th data segment referred to as a threshold data segment; and

dividing [[a]] <u>the</u> remaining undivided portion of said multimedia clip into ~~a third~~ <u>the second</u> plurality of data segments ~~having a second predetermined segment size~~ if the data segment of said multimedia clip is equal to or greater than the predetermined threshold value.

5.   **(Previously Presented)** The method according to claim 4, wherein said remaining undivided portion is divided into data segments in successive rounds having an index m+1 through N, where N is a total number of data segments of the first plurality of data segments and the second plurality of data segments.

6.   **(Currently Amended)** The method according to claim 4, wherein the ~~second~~ predetermined segment size is equal to the size of the threshold data segment.

7.   **(Currently Amended)** The method according to claim 4, wherein the ~~second~~ predetermined segment size is computed as:

$$2^{(r-1)} * \delta$$

where δ is computed as $L/2^{(N-1)}$; and

where r is a user adjustable parameter used to determine the ~~second~~ predetermined segment size for those fixed segments which occur once the predetermined threshold has been reached.

8.   **(Previously Presented)** The method according to claim 7, wherein δ is on the order of 5 to 30 seconds.

9.   **(Previously Presented)** The method according to claim 7, wherein the values for δ, r and m are determined by an origin server in accordance with an origin server aware scheme.

10.   **(Previously Presented)** The method according to claim 7, wherein the values for δ, r and m are determined by inter-cache communications in an origin server transparent scheme.

11.   **(Currently Amended)** The method of claim 1, wherein the distributing step further comprises the step of:

at each of the plurality of streaming caches, storing an ~~j-th~~ i-th data segment of the first plurality of data segments in an i-th distribution round with a probability equal to ~~a first predetermined probability~~ $1/2^{(i-1)}$, where ~~(i = 1, ..., k-1)~~ (i = 1, ..., k); and

at each of said plurality of streaming caches, storing an i-th data segment of the second plurality of data segments in an i-th distribution round with probability equal to ~~$1/2^{(i-1)}$~~ a predetermined probability ~~in an i-th distribution round~~, where ~~(i = k, ..., N)~~ (i = k+1, ..., N).

12.   **(Cancelled)**

13.   **(Currently Amended)** A method of distributing a segmented streaming multimedia clip among a plurality of streaming caches, comprising the steps of:

at each of said streaming caches:

receiving a plurality of data segments of the segmented streaming media clip, wherein the plurality of data segments comprises a first plurality of data segments <u>of exponentially increasing size</u> having a first predetermined segment-size and a second plurality of data segments of exponentially increasing <u>having a predetermined segment</u> size, wherein an i-th data segment is received in an i-th distribution round<u>, wherein a segment size of a k-th data segment in the first plurality of data segments is computed using the size of the multimedia clip and a total number of data segments in the first plurality of data segments</u>;

storing the i-th data segment of the segmented streaming multimedia clip in the i-th distribution round with a fixed probability <u>proportional to $1/2^{(i-1)}$</u>, where the i-th data segment is associated with the first plurality of data segments; and

storing the i-th data segment of the segmented streaming multimedia clip in the i-th distribution round with a <u>fixed</u> probability equal to $1/2^{(i-1)}$, where the i-th data segment is associated with the second plurality of data segments.

14. **(Currently Amended)** The method according to claim 13, further comprising the step of:

storing the i-th data segment of said segmented streaming multimedia clip with probability equal to $[1/2^{(i-1)}]$ * e(x)[[']], where the i-th data segment is associated with the second <u>first</u> plurality of data segments, where e(x) is a constant that is proportional to a popularity rating of the clip, where $0 < e(x) < 1$.

15. **(Cancelled)**

16. **(Cancelled)**

17. **(Cancelled)**

18. **(Cancelled)**

19.   **(Currently Amended)** A system for segmenting, distributing and replacing segments of streaming multimedia clips in a network, comprising:

at least one origin server storing said streaming multimedia clips;

a plurality of streaming caches in communication with said at least one origin server, said plurality of streaming caches defining a distribution set;

first processing means associated with said at least one origin server for segmenting the streaming multimedia clip into a first plurality of data segments of exponentially increasing size ~~having a first predetermined segment size~~ and a second plurality of data segments ~~of exponentially increasing~~ having a predetermined segment size, wherein a segment size of a k-th data segment in the first plurality of data segments is computed using the size of the multimedia clip and a total number of data segments in the first plurality of data segments, and for distributing said first and second pluralities of data segments to each of said plurality of streaming caches; and

second processing means associated with each of said plurality of streaming caches for storing data segments received from said at least one origin server in ~~a SC~~ each of said plurality of streaming caches and for

replacing said stored data segments from ~~said SC~~ <u>each of said plurality of streaming caches</u>.

20.   **(Previously Presented)** The system of claim 19, wherein said second processing means further comprises:

means for computing a potential function for each stored data segment for replacing segments.

21.   **(Previously Presented)** The system of claim 19, wherein said second processing means further comprises:

means for computing a probability to determine whether to store or discard each data segment received from said at least one origin server.